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The Chalcolithic Period on the Lebanese Coast

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(with 11 figures)

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Abstract

This paper presents certain aspects of the Chalcolithic period on the Lebanese coast, with an emphasis on spatial organization as well as the social and economic developments of its societies. The Chalcolithic Period of Lebanon is a transition between the end of the Neolithic period and the beginning of the Bronze Age, representing an important and complex phase in the evolution of the prehistoric societies. During this period, new technical advancements of great importance were developed in the arts of stone tool and metallurgy productions. While certain "prehistoric" traditions, such as production and use of lithic tools remained, innovations in the development of new types of arrowheads, blades, metal objects and funerary practices were witnessed. The archaeological data are unfortunately rare for this period in Lebanon, as only small numbers of sites are known and have been investigated. They are best illustrated by the sites of Byblos, Sidon-Dakerman, Khalde II and Minet ed-Dalieh on the coast, and by Mengez and Kfar Gerra located inland. The chronology of Chalcolithic occupation on the Lebanese coast is essentially based on Byblos excavations.

Keywords: Byblos, Chalcolithic Period, Funerary Practices, Sidon-Dakerman, Socioeconomic organization, Spatial organization.

Introduction

The Chalcolithic Period, IVth Millennium BC, of the Levant is a transition between the end of the Neolithic Period and the beginning of the 3rd Millennium BC, constituting an important and complex phase in the evolution of prehistoric societies. During this transitional period, cultural, social, economic and symbolic changes occurred in the region.

The debate amongst scholars as to whether the Chalcolithic Period (5700–4200 BP or 4500–3000 cal. BC) should be included in the Early Bronze Age or whether it should be considered a distinct transitional phase between the Neolithic Period and the Bronze

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Age has made the study of the Chalcolithic Period complicated and controversial (GENZ 2014; GILEAD 1988; ROWAN 2014; ROWEN & GOLDEN 2009).

The main archaeological evidence is based on the development of new technologies (metallurgy, ground stone, agro-technology), a significant expansion of the settlements (dwellings and public structures), the evolution of a complex social system (craft specializations, public constructions and space management), and finally social hierarchy and funerary practices characterized by jar burials.

Chronological and archaeological data

The IVth Millennium BC archaeological data of the coastal regions of Lebanon is hard to interpret since only a limited number of sites have been excavated. Byblos, located 40 km north of Beirut on the Lebanese coastline, occupying a rocky promontory 30 m above the sea level, has the most extensive evidence from the Chalcolithic Period. Maurice Dunand has excavated almost 70% of the site, between 1925 and 1973. Initially terming the period énéolithique, he further subdivided this period on the basis of ceramics and architecture into the *énéolithique ancien* (5700–5000 BP or 4500–3700 cal. BC), and *énéolithique recent* (5000–4200 BP or 3700–3000 cal. BC)[2] (DUNAND 1973).

Besides being the largest and most thoroughly excavated site, the settlement features a variety of architecture comprising dwellings, houses, silos and paved roads, and an exceptionally rich and varied corpus of burials and grave artifacts: 2,097 tombs in total including 2,059 jar burials with 3,652 objects (ARTIN 2009, 2010, 2014–2015; CAUVIN 1962, 1968; DUNAND 1973).

Our knowledge of the Chalcolithic Period in Lebanon is further enhanced by the excavations undertaken by Roger Saidah between 1967 and 1972 at the sites of Sidon-Dakerman, situated 70 km south of Byblos (SAIDAH 1979); Khalde II or Khan el Asis, about 1 km north of Khalde (SAIDAH 1969); Minet ed-Dalieh, situated at the far end of the Ras Beyrouth promontory where a large number of triangular flaked stone tools (later named after the site) were found (CAUVIN 1962, 1968); as well as Mengez and Kfar Gerra (known as "Djelal en Namous"), located further inland (GUIGUES 1937) (Fig. 1).

Other settlements dating from the Chalcolithic Period were discovered during surveys, and the materials gathered were the result of surface collections (BURKHALTER 1946–1948; BESANÇON & HOURS 1970, 1971; COPELAND & WESCOMBE 1965, 1966). Due to the absence of stratigraphic sequences the archaeological material collected was never scientifically dated or studied in detail.

It is during this transitional sequence that the two coastal Levantine sites of Byblos and Sidon-Dakerman underwent a similar growth – illustrated by habitation structures and

[2] Unfortunately, dating Byblos and its different chronological phases has been controversial due to the absence of both radiocarbon dates and comparative studies.

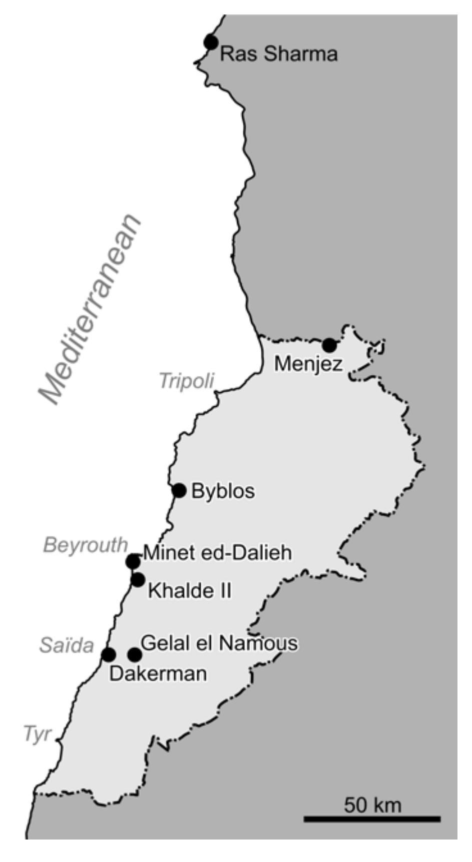


Fig. 1. Map of the Chalcolithic sites of North Levant mentioned in the article.

jar burials. The site of Byblos on the coastal promontory shows continuous human occupation and activity from the Neolithic Period until the medieval Period. On the other hand, the inhabitants of Sidon-Dakerman abandoned the site after the IV^th^ Millennium.

Spatial organization of sites

During the Chalcolithic Period, the spatial occupation of settlements is characterized by both dwellings – houses, silos, and paved roads – and funerary structures – plain, cave, and jar burials – in close proximity to one another.

The traditional methods used in archaeological surveys and excavations of the coastal regions do not permit an in-depth study of the spatial organization of settlements. Nor do they allow for the comparison of tombs and habitation structures at different points and over periods of time. It is therefore difficult both to obtain an overall picture of the spatial organization and to analyze the relationship that once existed between the world of the living and the world of the dead.

Architectural structures

The architecture of the Chalcolithic Period at Byblos is characterized by single-room, stone-wall houses, that were sometimes fairly large in size (9 × 6 m). Around 87 habitations structures were uncovered. These rectangular buildings have right angle corners inside and rounded corners outside. By the end of the Chalcolithic Period, the rectangular structure evolved into a circular one at Byblos (with an approximate diameter of 5–6 m). However, this development is unique to Byblos, as rectangular ones at other sites replaced circular structures (DUNAND 1973; BRAUN 1989) (Figs 2, 3).

Stone and pebble-constructed houses were not aligned, nor did they stand tightly together like the dwellings of the Neolithic Period. Open spaces, devoid of any structure, could have served as roads, work areas, meeting places, or even as burial areas where construction was prohibited. On the basis of recorded data, we can assume that the spatial

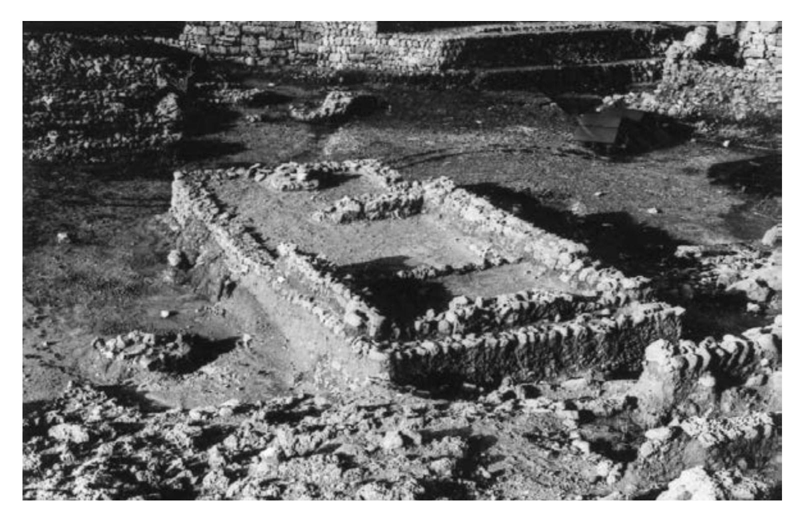


Fig. 2. Example of a rectangular habitation structure from Byblos, Lebanon (*Fonds Dunand* archives).



Fig. 3. Example of a circular habitation structure from Byblos, Lebanon (*Fonds Dunand* archives).

organization of Byblos during the second half of the Chalcolithic Period involved new forms of funerary practices.

At Sidon-Dakerman, 23 well preserved, isolated, single-room, stone wall houses with an ellipsoidal plan (circular-apsidal) were discovered in various sizes and orientations, measuring on average 8 × 4 m. Several of the houses had been burnt and the plastered floors, which had been hardened by the fire, preserved the imprints of reeds (SAIDAH 1979) (Figs 4, 5).

At the site of Khalde II (SAIDAH 1969), the foundations of oval houses with and without their apses still intact (similar in size and form to those of Sidon-Dakerman) were found.

No definite defensive installations were ever discovered on these sites. We can assume that in Byblos the promontory formed by two hills would have provided protection for the village from its neighbours. The excavations of the southern side of Sidon-Dakerman,

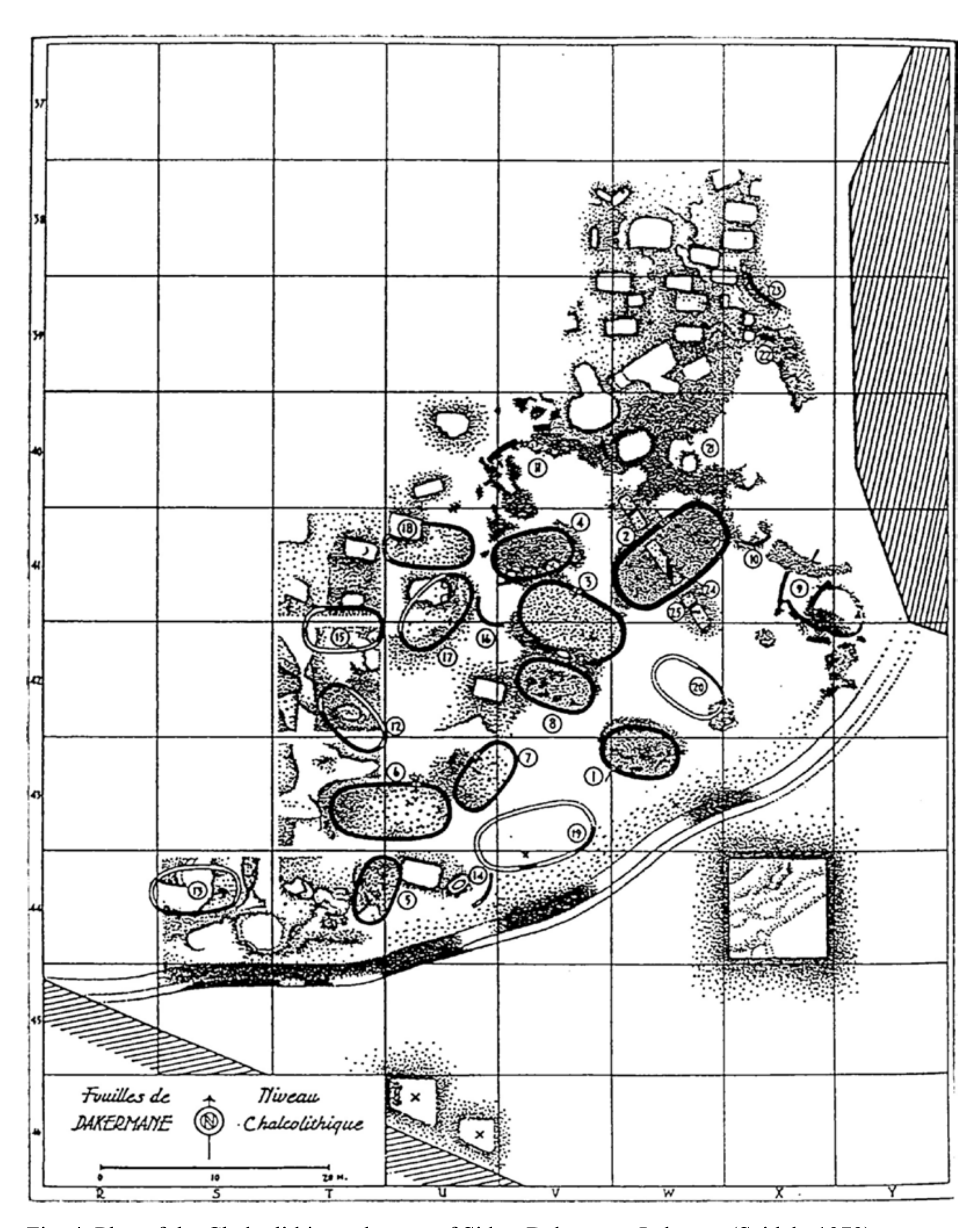


Fig. 4. Plan of the Chalcolithic settlement of Sidon-Dakerman, Lebanon (Saidah, 1979).

however, revealed according to Saidah, the existence of a fortification wall covering a distance of about 60 m. (SAIDAH 1979; DE CONTENSON 1982). We do not know if the village was entirely surrounded by such a fortification and if the nature of this



Fig. 5. Example of an ellipsoidal habitation structure from Sidon-Dakerman, Lebanon (Francis Hours, not dated).

wall surrounding the Sidon-Dakerman settlement is a real fortification wall or just an enclosure.

Funerary practices

During the IVth Millennium BC, the tradition of jar burials, already in use during the Neolithic Period, continued in the coastal sites of the northern Levant. These sites revealed that immature individuals were generally placed under large pieces of ceramic vessels or in large bowls or small jars, which were associated with the habitation structures.

A rich variety of funerary goods were found in Byblos. The site has 2,097 tombs, 2,059 of which are jar burials (Artin 2009, 2010, 2014–2015). These large jars had domestic and funerary usages (Figs 6, 7, 8). However no analysis has been carried out on the residual traces in the jars to confirm Dunand's hypothesis that they were used to store cereals before serving as a receptacle for burial. In Dunand's analysis, the body was introduced into the jar through a large opening. This opening was made using a flint tool evidenced by the small perforation marks observed on the jar's side – generally around the handle. This method of creating an opening can be observed on some of the Byblos jars housed in the National Museum of Beirut. The confirmation of this hypothesis would suggest that the jars were not made specifically to serve as a funerary structure.



Fig. 6. The funerary context in Byblos: jar burials (*Fonds Dunand* archives).



Fig. 7. Example of jar burials (*Fonds Dunand* archives).

However, scientific analyses need to be undertaken in order to understand the function and purpose of the Byblos jars before burial. On the site of Byblos, the grave goods associated with the human remains were extremely diverse, including ceramics, beads, bone artifacts and objects made of gold and silver. These were found in both adults and children jar burials with an average of 3 objects per tomb. The lithic industry included stone implements and weapons (either flaked or polished), bone industry tools made of bone and/or ivory, and art objects and beads (non-functional items) included human or animal figurines, as well as amulets, necklaces, bracelets, beads, and pendants made of different materials[3] (Figs 9, 10, 11).

[3] My current work studies pendants and amulets of the Neolithic and Chalcolithic Periods, from different archaeological sites in Lebanon.

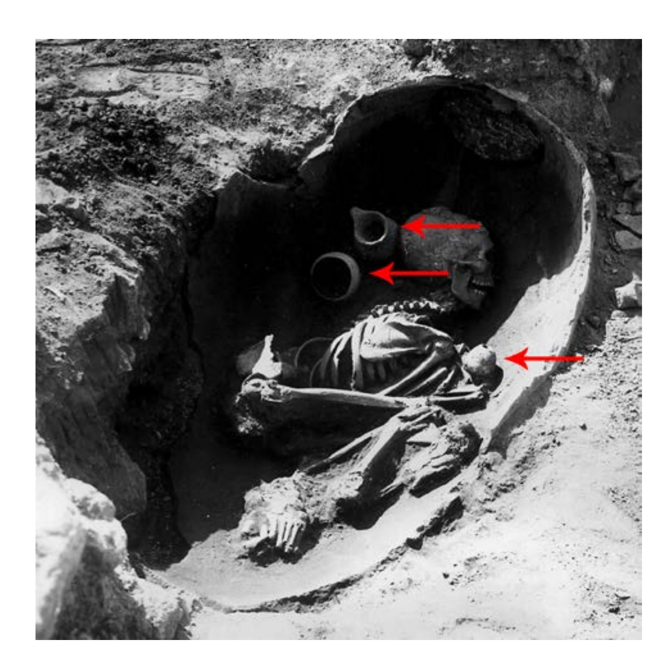


Fig. 8. Example of jar burials (Tomb n° 645, the arrows showing the distribution of the grave goods in the Jar (*Fonds Dunand* archives).



Fig. 9. Examples of grave goods from Byblos: Ceramic artifact ("cruche jumelées") (*Fonds Dunand* archives).

In comparison to Byblos, the majority of the jar burials at the other sites contain only a small number of grave goods or beads. A flint flake found on the pelvis of a skeleton in Tomb 4 at Sidon-Dakerman is a notable exception (Hours 1979). At Sidon-Dakerman, however, only adult jar burials were discovered in the Chalcolithic layers (Saidah 1977, 1979; de Contenson 1982).

Contrary to the coastal habitations, the stone funerary structures of inland Lebanon, such as the "megalithic necropolis" of Mengez (Tallon 1959, 1964), are not situated near



Fig. 10. Examples of grave goods from Byblos: Metallic artifact (fish-hook tomb n° 1669) (*Fonds Dunand* archives).

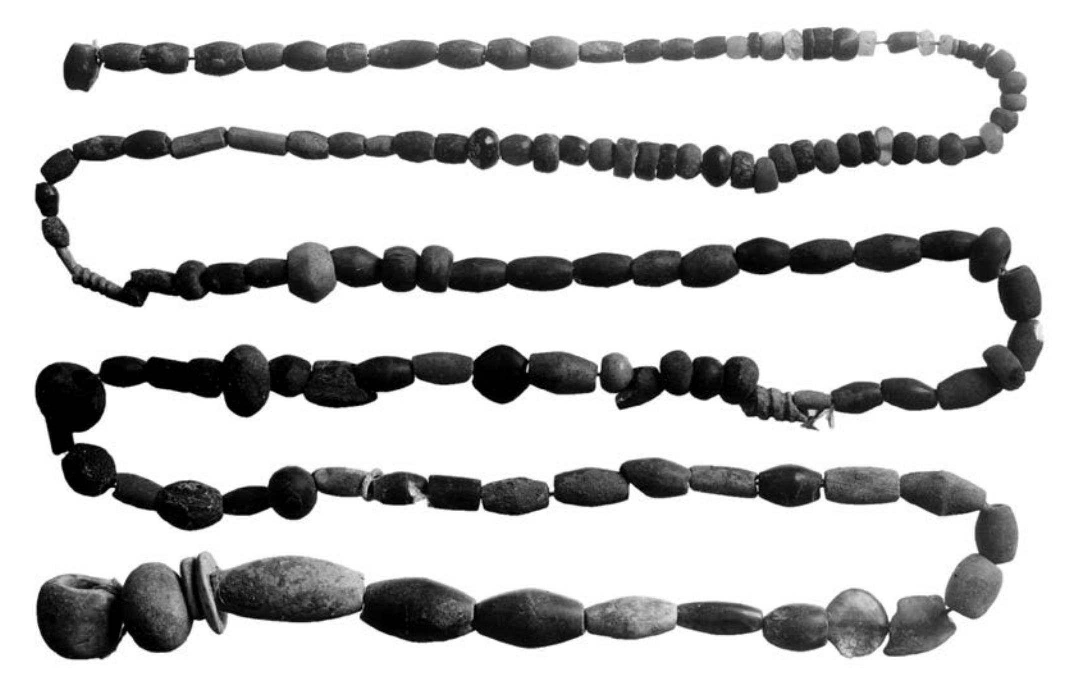


Fig. 11. Examples of grave goods from Byblos: Beads (*Fonds Dunand* archives).

the habitation structures. These stone constructions are attributed to nomad shepherds (STEIMER-HERBET 2000). Funerary chambers built into soft stone were also discovered away from any evidence of habitations at the site of Kafer Garra, 10 km east of Sidon (GUIGUES 1937).

Social organization and economic development

One of the important questions concerning the Chalcolithic Period of the Lebanese coastline is how best to characterize the socioeconomic organization. Unfortunately, in the absence of stratigraphic and chronological data, it is impossible either to reconstruct

the plans or the sequence of settlements built at Byblos or to define their social and economic development. However, we can present an interpretation based on the study of the "necropolis" and the artifacts found on the site.

Social organization

The close proximity of habitation structures to the tombs seems to suggest the sedentary nature of these societies. In Byblos, the spatial analysis of the different zones revealed no difference between the burials of adults and children. Other areas in the Levant during the Chalcolithic Period reveal that adults and children were treated differently and were buried in separate zones.

It would be risky to formulate hypotheses about the social hierarchy that existed at the time. Current debates concern the degree of complexity in Chalcolithic societies, and in particular of their structures and social organization. Were these egalitarian or chiefdom type societies? Although funerary practices are frequently used to demonstrate the complexity of Chalcolithic societies in the southern Levant, the nature of the funerary goods does not indicate the social status of the individual, nor do they determine a hierarchy (Gilead 1993; Levy 1998, 2016; Masset 1990; Milevski 2009). Likewise, it cannot be confirmed that those buried were contemporary with one another. The settlements lasted for over 1,000 years, during which new techniques and materials were introduced and developed, making it impossible to establish social hierarchy based exclusively on the presence or absence of certain objects or types of material. Maurice Chehab considered the tombs of Byblos to be those of chiefs, since they were rich in grave goods and included many metal objects (Chehab 1950). In a similar manner and without certainty, the weapons, daggers, and mace-heads that were deposited in jars in the northern Levant during the Chalcolithic Period were always attributed to adult males, while beads were considered to have been for the females. These assumptions do not confirm however, the existence of "chiefdoms". The tombs containing weapons were not necessarily the richest in funerary goods, nor were they always connected with male subjects (Belard 2015).

Furthermore, the funerary material found in the jars of Byblos include commonly used objects (fish-hooks and beads) as well as objects specifically made for inhumation, such as ceramics which were not strong enough for functional use. The presence of objects made especially for inhumation implies that the deceased were not always buried with their personal belongings. Thus, the available data does not facilitate any attempt at establishing social differentiation (Levy 1998, 2016; Bourke, 2002)

Economic development

Economic life on the coastal sites was varied and based upon herding (as attested by enclosures and bone remains of domesticated animals), agriculture (barley, cereals,

olive pits, and jars were found), fishing (fish-hooks discovered), hunting (weapons and bone remains of wild animals identified), and crafts (beads, tools, and ceramics abound) (BOURKE, 2001; GOLDEN 2010).

Due to the rise in specialized activities, crafts, and newly developed artisan production techniques, a large number of geological (flint) and environmental (quality timber) resources that were abundant at the coastal sites acquired a higher economic value.

The standardized ceramic objects at the coastal sites were probably the products of specialized artisans. The rarity of decoration demonstrates that the potter-artisans were mainly preoccupied with producing a large quantity of receptacles for everyday use. It is interesting to note that most of the ceramic objects that were placed in funerary jars were the common household wares produced for the community in Byblos.

The stone industry of this period is characterized by a variety of blades, sickles, arrowheads, daggers, and triangles. The "Canaanean blade" and "Minet ed-Dalieh" techniques were used for blades and triangles respectively. The triangles, made of grey flint, which appear to be identical to the Cenomanien flint of Minet ed-Dalieh, were found on different sites, suggesting that they were imported from specialized workshops and not produced *in situ*. However, Minet ed-Dalieh was probably not the only workshop of this type, as similar triangles were also discovered at Ras Shamra in northern Syria (DE CONTENSON 1992) and also 5–20 km inland from Beirut, at Sin el-fil, Meyrouba, and Gelal en Nammous. These discoveries reveal the increase in exchange during the Chalcolithic Period.

Practical and ornamental artifacts made of bones were found in Byblos. The use of bone was not seen during the late phase of the Chalcolithic Period in Byblos. This site is an interesting example, demonstrating changes in the use of this of this material. The quantitative study of the grave objects indicates that the stone grave goods (found in abundance) and bone funerary goods were present in the zones corresponding to the early phase. Their frequency diminished progressively as the site expanded toward the south and east (middle phase), and then disappeared completely in the northern area (final phase). This coincided with the addition and development of a new material – metal, including copper, gold, and, most notably, silver (ARTIN 2009, 2010, 2014–2015; GOLDEN 2010).

Bone objects were gradually replaced by metal ones, which were more resistant and flexible in the early phase of the Chalcolithic Period. Copper was mainly used for the fabrication of hunting weapons and arms (arrowheads, daggers, etc.), though its usage remained rare. The most frequently utilized metal was silver, largely used for the fabrication of beads. Despite the fact that fishing seems to have been an important activity for the coastal regions, as evidenced by the very large quantities of fish bones discovered during the excavations, only a small number of commonly used metal objects such as fish-hooks have been discovered. And we can note that the first example of the use of metal was a fish-hook discovered in a funerary context at Byblos. This may be because these objects were rare or perhaps reused (ARTIN 2009, 2010, 2014–2015).

Despite the large number and exceptional quality of objects made of metal (silver, copper, and gold) discovered at Byblos, no trace of a metallurgical industry has ever been found on these sites (Hauptmann 2007). The presence of these objects is probably linked to commercial activities with Palestine, Egypt, and Anatolia, but this can only be proved through metal analysis.

Conclusion

The well-known sites of the Lebanese coast dating from the Chalcolithic Period reveal some of the economic, cultural, and social characteristics of these prehistoric Levantine societies. The available data does not allow for a more precise definition of the social and economic organization of these Chalcolithic societies. However, the hypotheses presented here may help to set the priorities and objectives for future excavations in the region. Pre-existing archaeological data must be scientifically verified by means of controlled surveys at sites that were never explored, and samples of archaeological material must be re-examined and analyzed in greater detail.

Our knowledge of this period is still incomplete and underdeveloped. Furthermore, we speculate that similar sites with jar burials are surely likely to exist elsewhere on the Lebanese coastal region and their further study will contribute to a deeper understanding of the period and the tradition of jar burials.Since the actual data does not allow for a more precise description, the study of the necropolis of Byblos and the ceramic artifacts found in a funerary context reveal only some aspects of the economic, cultural, and social characteristics of these societies. Nevertheless, the Chalcolithic Period was surely a transitional period, preceding the rise of the Bronze Age. It marked the beginning of many transformations and changes in technology, economic systems and social organization, which contributed and made possible an elaborate urbanization process.

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